

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendments and the following remarks.

Response to Rejections Under 35 U.S.C. § 102

The rejection of claims 1, 2 and 8 is under 35 U.S.C. § 102(e) as being anticipated by Onoya (US 2001/0034075 A1). This rejection is respectfully traversed on the grounds that the Onoya publication fails to disclose or suggest:

- *predefined* control signals, which allow a corresponding set of aperiodic polarity order to be output by simply selecting one of the predefined control signals, thereby eliminating the need for a complex controller such as the one disclosed in Onoya; and
- distribution of the *entire* polarities of the frames in complementary and neutralized to zero in total, so as to reduce crosstalk and enhance image quality (Onoya only arranges aperiodic polarity orders to overcome the problem caused by frames with periodic polarities, leaving numerous frames whose polarities are not neutralized to zero).

With respect to the first distinction, claims 1 and 8 have been amended to more positively recite the predefined polarity arrangement control signals, each corresponding to a set of aperiodical polarity order. This addition is supported by the last paragraph on page 5 of the present application, which points out that the polarities of the enhanced analog signals are chosen according to the polarity arrangement control signals sent from the polarity

arrangement timing generator to form an aperiodic polarity order of the output polarity distribution (polarity selecting pattern) corresponding to different combinational states. As a result, the liquid crystal display device of the present invention is able to save electric power by predefining the plurality of polarity arrangement control signals, each corresponding to a set of aperiodical polarity order, and simply selecting one of the polarity arrangement control signals for outputting the corresponding set of aperiodic polarity order, so that the polarities of the pixels are distributed aperiodically and the polarity of one half of the frames is opposite to that of the other half of the frames. Therefore, in the present invention, it is easy to generate an aperiodic polarity order of the output polarity distribution by simply predefining and selecting a set of aperiodical polarity order without having to employ a complicated control circuit such as the parity data signal generation portion 203 disclosed in the Onoya patent. Because no control circuit is required by the claimed invention, electric power consumption can be reduced to a minimum.

Turning to the second distinction, in the present invention, since the patterns displayed by the frames are arranged in such a manner that one half of the frames have pixels with polarities exactly opposite to those of the pixels in the other half (steps S601-S603), the entire polarities of the frames are distributed in complementary and neutralized to zero in total, so as to reduce the crosstalk effect and enhance the image quality. However, in Onoya, as shown in Figs. 2-7 and the associated description, only aperiodic polarity orders are arranged to overcome the prior problem caused by the frames with periodic polarities (see Figs. 21A-21D and associated description), without considering the crosstalk problem

caused by the unbalanced polarities on the frames to be displayed. The Examiner's argument that Fig. 4 of Onoya shows the feature that "the polarities of the pixels are distributed aperiodically and the polarity distribution of said one half of the frame is complementary to that of the other half of the frames" is therefore wrong. Fig. 4 of Onoya shows three negative polarities and two positive polarities for the S_p line, two negative polarities and three positive polarities for the $S_{(p+1)}$ line,..., and thirty-eight negative polarities and thirty-seven positive polarities for the total frames, in which the entire polarities of the frames are not neutralized to zero.

Because the Onoya publication fails to disclose or suggest at least two positively recited features of the claimed invention, it is respectfully submitted that Onoya fails to anticipate the presently claimed invention, and withdrawal of the rejection of claims 1, 2, and 8 under 35 USC 102(b) is respectfully requested.

Response to Rejections Under 35 U.S.C. § 103

The rejection of claims 1-5 and 8 is under 35 U.S.C. § 103(a) as being unpatentable over Jeong (US 6,335,721 B1) hereinafter Jeong721 and further in view of Onoya.

This rejection is respectfully traversed on the grounds that Jeong721 discloses periodic polarity patterns and a system connected therewith (FIGS. 4, 6, 9 and associated description), and fails to disclose or suggest that a plurality of polarity arrangement control signals are predefined and selected for outputting a set of aperiodic polarity order to save power consumption. Moreover, there is no motivation or suggestion to combine Onoya and Jeong721, since Onoya is entirely unrelated to providing a plurality of predefined polarity arrangement control signals for saving power consumption, and Jeong721

is entirely unrelated to the problem or any solution for saving power consumption in liquid crystal display device.

Therefore it is respectfully submitted that the rejection of claims 1-5 and 8 under 35 USC § 103(a) is improper, and withdrawal of the rejection is accordingly requested.

CONCLUSION

In view of the foregoing remarks, reconsideration and allowance of the application are now believed to be in order, and such action is hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

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